

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Canceled).

2. (Currently Amended) An isolated polypeptide fragment of a ~~*Chlamydia*~~ HMW protein, wherein the ~~*Chlamydia*~~ species is ~~*Chlamydia trachomatis*~~, ~~*Chlamydia pecorum*~~, or ~~*Chlamydia pneumoniae*~~ and said fragment comprises comprising an amino acid sequence ~~shown in~~ at least 95% identical to SEQ ID NO: 3, 17 or 25-37, wherein said polypeptide the fragment is recognizable by an antibody that specifically binds to a peptide consisting of ~~comprising an the~~ amino acid sequence of SEQ ID No.: 2, ~~15 or 16~~.

3-12. (Canceled).

13. (Withdrawn) ~~An isolated~~ The polypeptide fragment of claim 27, which is a ~~*Chlamydia*~~ HMW protein, said fragment encoded by plasmid pJJ 36-J having ATTC Accession No. PTA-3719.

14-15. (Canceled)

16. (Withdrawn) The ~~antigenic~~ composition of claim ~~[[14]]~~ 76, wherein said ~~HMW protein~~ polypeptide is ~~obtained using~~ encoded by plasmid pAH342 obtainable from *E. coli* BL21 (pAH342) assigned ATCC accession number 985[[5]]38.

17-20. (Canceled)

21. (Withdrawn) The polypeptide of claim 71 ~~An isolated *Chlamydia* HMW protein, comprising a recombinantly produced amino acid sequence encoded by a nucleic acid comprising SEQ ID NOs: 1, 23 or 24, wherein the *Chlamydia* species is *Chlamydia trachomatis*, *Chlamydia pecorum*, or *Chlamydia pneumoniae*.~~

22. (Withdrawn) The polypeptide of claim 71 ~~An isolated *Chlamydia* HMW protein, comprising an amino acid sequence of SEQ ID NO.: 2, 15, or 16, wherein the *Chlamydia* species is *Chlamydia trachomatis*, *Chlamydia pecorum*, or *Chlamydia pneumoniae*.~~

23-26. (Canceled).

27. (New) An isolated polypeptide comprising an amino acid sequence at least 95% identical to amino acids 29-533 of SEQ ID NO: 2, wherein said polypeptide is recognizable by an antibody preparation that specifically binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO: 2.

28. (New) The polypeptide of claim 27, which comprises amino acids 29-533 of SEQ ID NO: 2.

29. (New) The polypeptide of claim 27, further comprising a heterologous polypeptide.

30. (New) The polypeptide of claim 29, wherein said heterologous polypeptide is selected from the group consisting of a pre or pro sequence, an affinity purification peptide, a heterologous immunogenic peptide, and a combination of two or more of said heterologous polypeptides.

31. (New) A composition comprising the polypeptide of claim 27 and a carrier.
32. (New) The composition of claim 31, further comprising an adjuvant.
33. (New) The composition of claim 32, wherein said adjuvant is selected from the group consisting of alum, mLT, QS21, MPS, Freund's complete adjuvant, and a combination of two or more of said adjuvants.
34. (New) The composition of claim 31, further comprising a targeting molecule combined with or conjugated with said polypeptide.
35. (New) The composition of claim 34, wherein the targeting molecule is selected from the group consisting of vitamin B12, bacterial toxins or fragments thereof, monoclonal antibodies, proteins, nucleic acids, carbohydrates, and a combination of two or more of said targeting molecules.
36. (New) The composition of claim 31, which is formulated as a microparticle, a capsule, a liposome preparation, or an emulsion.
37. (New) The composition of claim 31, which induces a humoral immune response (HIR) or cell mediated immune response (CMI) against said polypeptide when administered to a mammal or a bird.
38. (New) An isolated polypeptide comprising an amino acid sequence encoded by a nucleic acid sequence which hybridizes under a stringent condition to a DNA sequence which is complementary to the nucleotide sequence encoding SEQ ID NO: 2, wherein said polypeptide is recognizable by an antibody preparation that specifically binds to a peptide consisting of the amino acid sequence of SEQ ID NO: 2.

39. (New) The polypeptide of claim 38, wherein said nucleic acid sequence hybridizes in the presence of 50% formamide at 42°C.

40. (New) The polypeptide of claim 38, further comprising a heterologous polypeptide.

41. (New) The polypeptide of claim 40, wherein said heterologous polypeptide is selected from the group consisting of a pre or pro sequence, an affinity purification peptide, a heterologous immunogenic peptide, and a combination of two or more of said heterologous polypeptides.

42. (New) A composition comprising the polypeptide of claim 38 and a carrier.

43. (New) The composition of claim 42, further comprising an adjuvant.

44. (New) The composition of claim 43, wherein said adjuvant is selected from the group consisting of alum, mLT, QS21, MPS, Freund's complete adjuvant, and a combination of two or more of said adjuvants.

45. (New) The composition of claim 42, further comprising a targeting molecule combined with or conjugated with said polypeptide.

46. (New) The composition of claim 45, wherein the targeting molecule is selected from the group consisting of vitamin B12, bacterial toxins or fragments thereof, monoclonal antibodies, proteins, nucleic acids, carbohydrates, and a combination of two or more of said targeting molecules.

47. (New) The composition of claim 42, which is formulated as a microparticle, a capsule, a liposome preparation, or an emulsion.

48. (New) The composition of claim 42, which induces a humoral immune response (HIR) or cell mediated immune response (CMI) against said polypeptide when administered to a mammal or a bird.

49. (New) An isolated polypeptide comprising an amino acid sequence at least 95% identical to amino acids 217-674 of SEQ ID NO: 2, wherein said polypeptide is recognizable by an antibody preparation that specifically binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO: 2.

50. (New) The polypeptide of claim 49, which comprises amino acids 217-674 of SEQ ID NO: 2.

51. (New) The polypeptide of claim 49, further comprising a heterologous polypeptide.

52. (New) The polypeptide of claim 51, wherein said heterologous polypeptide is selected from the group consisting of a pre or pro sequence, an affinity purification peptide, a heterologous immunogenic peptide, and a combination of two or more of said heterologous polypeptides.

53. (New) A composition comprising the polypeptide of claim 49 and a carrier.

54. (New) The composition of claim 53, further comprising an adjuvant.

55. (New) The composition of claim 54, wherein said adjuvant is selected from the group consisting of alum, mLT, QS21, MPS, Freund's complete adjuvant, and a combination of two or more of said adjuvants.

56. (New) The composition of claim 53, further comprising a targeting molecule combined with or conjugated with said polypeptide.

57. (New) The composition of claim 56, wherein the targeting molecule is selected from the group consisting of vitamin B12, bacterial toxins or fragments thereof, monoclonal antibodies, proteins, nucleic acids, carbohydrates, and a combination of two or more of said targeting molecules.

58. (New) The composition of claim 53, which is formulated as a microparticle, a capsule, a liposome preparation, or an emulsion.

59. (New) The composition of claim 53, which induces a humoral immune response (HIR) or cell mediated immune response (CMI) against said polypeptide when administered to a mammal or a bird.

60. (New) An isolated polypeptide comprising an amino acid sequence at least 95% identical to amino acids 688-1012 of SEQ ID NO: 2, wherein said polypeptide is recognizable by an antibody preparation that specifically binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO: 2.

61. (New) The polypeptide of claim 60, which comprises amino acids 688-1012 of SEQ ID NO: 2.

62. (New) The polypeptide of claim 60, further comprising a heterologous polypeptide.

63. (New) The polypeptide of claim 62, wherein said heterologous polypeptide is selected from the group consisting of a pre or pro sequence, an affinity purification peptide, a heterologous immunogenic peptide, and a combination of two or more of said heterologous polypeptides.

64. (New) A composition comprising the polypeptide of claim 60 and a carrier.

65. (New) The composition of claim 64, further comprising an adjuvant.

66. (New) The composition of claim 65, wherein said adjuvant is selected from the group consisting of alum, mLT, QS21, MPS, Freund's complete adjuvant, and a combination of two or more of said adjuvants.

67. (New) The composition of claim 64, further comprising a targeting molecule combined with or conjugated with said polypeptide.

68. (New) The composition of claim 67, wherein the targeting molecule is selected from the group consisting of vitamin B12, bacterial toxins or fragments thereof, monoclonal antibodies, proteins, nucleic acids, carbohydrates, and a combination of two or more of said targeting molecules.

69. (New) The composition of claim 64, which is formulated as a microparticle, a capsule, a liposome preparation, or an emulsion.

70. (New) The composition of claim 64, which induces a humoral immune response (HIR) or cell mediated immune response (CMI) against said polypeptide when administered to a mammal or a bird.

71. (New) An isolated polypeptide comprising an amino acid sequence at least 95% identical to amino acids 29-1012 of SEQ ID NO: 2, wherein said polypeptide is recognizable by an antibody preparation that specifically binds to a polypeptide consisting of the amino acid sequence of SEQ ID NO: 2.

72. (New) The polypeptide of claim 71, which comprises amino acids 29-1012 of SEQ ID NO: 2.

73. (New) The polypeptide of claim 72, which comprises SEQ ID NO: 2.

74. (New) The polypeptide of claim 71, further comprising a heterologous polypeptide.

75. (New) The polypeptide of claim 74, wherein the heterologous polypeptide is selected from the group consisting of a pre or pro sequence, an affinity purification peptide, a heterologous immunogenic peptide, and a combination of two or more of said heterologous polypeptides.

76. (New) A composition comprising the polypeptide of claim 71 and a carrier.

77. (New) The composition of claim 76, further comprising an adjuvant.

78. (New) The composition of claim 77, wherein said adjuvant is selected from the group consisting of alum, mLT, QS21, MPS, Freund's complete adjuvant, and a combination of two or more of said adjuvants.

79. (New) The composition of claim 76, further comprising a targeting molecule combined with or conjugated with said polypeptide.

80. (New) The composition of claim 79, wherein the targeting molecule is selected from the group consisting of vitamin B12, bacterial toxins or fragments thereof, monoclonal antibodies, proteins, nucleic acids, carbohydrates, and a combination of two or more of said targeting molecules.

81. (New) The composition of claim 76, which is formulated as a microparticle, a capsule, a liposome preparation, or an emulsion.

82. (New) The composition of claim 76, which induces a humoral immune response (HIR) or cell mediated immune response (CMI) against said polypeptide when administered to a mammal or a bird.